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ABSTRACT

Full verbs and auxiliaries are subject to gapping. In the simplest cases, this construction type involves apparent ellipsis within one or more clausal conjuncts under identity with the finite verb or auxiliary of a preceding conjunct. It has often been suggested that the apparent ellipsis must involve at least a verb. Some researchers see in the ellipsis of both full verbs and auxiliaries in this construction support for the claim that they belong to a wider category "verb." However, there is evidence for the argument that this analysis is wrong, and that there are straightforward cases of gapping that do not include a verb or auxiliary. It can be concluded that: (1) gapping may occur in conjoined "small clause" constructions and exclamative clauses, where the ellipsis crucially includes a noun, adjective, adverb, or preposition, suggesting that auxiliaries are not necessarily verbs; and (2) instead, gapping seems to involve an ellipsis that crucially includes a semantic factor or an item that corresponds to a head of an antecedent conjunction or of its major predicate, supporting the view that auxiliaries are heads. (MSE)

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THE RANGE OF GAPPING AND THE STATUS OF AUXILIARIES

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Full verbs and auxiliaries are both subject to GAPPING as in (1) and (2). In the simplest cases this construction type involves apparent ellipsis within one (or more) clausal conjuncts under identity with the finite verb or auxiliary of a preceding conjunct. Gapped conjuncts contain two or more constituents (though the naturalness of examples with more than two constituents is often reduced), and these contrast with corresponding phrases in a preceding conjunct. The contrasting phrases typically carry a tonic or intonational focus.[1] It has often been suggested that the apparent ellipsis must involve at least a verb (cf. Jackendoff 1971, Stillings 1975, Hudson 1976, etc.), most recently by van Oirsouw who uses the term 'verb site' for the medial ellipsis of gapping, which 'always involves deletion of at least a verb' (1987: 123). In line with this general tradition of analysis Pullum and Wilson (1977: 744) followed by Schachter (1983: 148) see in the ellipsis of both full verbs and auxiliaries in this construction straightforward support for the claim that they belong to a wider category 'verb' or [+V]. I will argue that the general tradition of analysis is wrong and that there are in fact straightforward cases of gapping which do not include a verb or auxiliary. The claim that these belong to the same category does not therefore follow directly, though it may follow given further assumptions. But in the first instance the gapping facts support the view that auxiliaries are heads. These facts therefore count against analyses which in-

[1] See especially Sag (1976), Neijt (1980) and Sag et al. (1985: 156ff.) for examples and discussion of gapping. Van Oirsouw (1987) surveys the literature. In examples I shall sometimes italicize words which contain a tonic or intonational focus. I shall also indicate the apparent site of ellipsis for clarity: this implies no claim about the structure of examples.

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terpret auxiliaries as specifiers, as dependants in VP structure, or otherwise as non-head items.

(1) *John* likes *sausages* and *Paul _ beefburgers.*

(2) *John* must eat his *supper* and *Paul* _ finish his *homework.*

Akmajian, Steele and Wasow (1979: 18, note 17) claimed that Pullum and Wilson's argument failed because nouns and adjectives also underwent gapping, so that the construction did not simply represent a generalization across auxiliaries and full verbs. They cited (3) and (4) in support of their claim.[2]

(3) Harry's book about Affix-Hopping and Fred's _ about Psych-Movement will _ revolutionize the field.

(4) Harry became more hostile towards Fred and less _ towards me.

But ellipses within NPs with a genitive, as in (3), cannot be straightforwardly treated as the same phenomenon as gapping. It is an essential property of gapping that it found only in a narrow range of construction types, principally coordinations: it is virtually restricted to occurrence within conjuncts, as appears from (5a-d). Moreover the gap must be 'high' within the conjunct, affecting the highest clause in an example like (1), cf. (6). But ellipses of the type of (3) do not show these restrictions, as is clear from (7). It seems unlikely that they should be generalized with gapping.[3]

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[2] Schachter rebuts Akmajian, Steele and Wasow's claim on the ground that 'verbs can be gapped only when something follows them' whereas the ellipsis of nouns after possessives and adjectives after comparative markers does not require following material (1983: 195f.). But if 'stripping' (as in *John went to the store and (then) Lou*) and gapping are to be accounted for as an essentially unitary phenomenon, as argued in Sag et al. (1985: 156ff.), then this argument does not hold.

[3] Examples like those in (7) seem to me to be widely enough available to give the lie to Jackendoff's (1971) claim that gapping and his 'N-bar gapping' (as in (7)) should be generalized. Such ellipses are, of course, not

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(5) a. *John likes bacon. Paul _ eggs.

b. *John likes bacon, although Paul _ eggs.

c. *If John likes bacon, then Paul _ eggs.

d. *If John must eat his supper, then Paul _ finish his homework.

(6) a. *John likes bacon and I know (that) Paul _ eggs.

b. *John must eat his supper, and your mother says (that) Paul _ finish his homework.

(7) a. John's paper on social history was interesting. Paul's _ on the Lollards was not.

b. John's paper on social history was interesting, although Paul's _ on the Lollards was not.

c. John's paper on social history immediately preceded Paul's _ on the Lollards.

d. I enjoyed John's paper on social history, but Mary told me that she had found Paul's _ on the Lollards heavy going.

The distribution of ellipses of type (4) is less clear. It certainly appears outside coordination, though it does not seem generally satisfactory where it is not 'high' in its construction or conjunct, cf. (8). But it does not provide an immediately clear parallel to gapping (though the relationship needs more investigation). And, if it is essentially the same phenomenon as gapping, then it might be accommodated within a

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unrestricted. But the view that extrasyntactic factors have a major role to play here seems plausible, cf. Sag et al. (1985: 164) and references cited there. See note 5 below for discussion of a further argument developed by Neijt (1980).

broadening of Pullum & Wilson's position in which auxiliaries, full verbs and adjectives all belong to [+V] and permit gapping. Thus Akmajian, Steele and Wasow have not carried their point convincingly.

(8) a. Harry became *more* hostile towards *Fred*, though *less* _ towards *me*.

b. (?) Harry became *more* hostile towards *Fred* without seeming any *less* _ towards *me*.

c. (?) He was only a *little* upset about the *first* proposal, and I'm afraid he'll be rather *more* _ about the *second*.

d. ? Being *less* angry with *Mary* just made me *more* _ with her *brother*.

There are, however, two other construction types which show that gapping has a wider range than has been generally assumed. Before we consider these, remember that it is not simply verbs and auxiliaries alone which may gap in the traditional account, but, more generally, a string of elements which includes at least the 'highest' full verb or auxiliary in the conjunct, but which may also include, perhaps in part, complements and modifiers as in (9), subject to a variety of restrictions (for a review of which see especially Sag 1976). I shall say that such examples 'crucially include' the highest verb or auxiliary in question, so that *will* in (9c) is 'crucially included', but *try* is not.

(9) a. John greedily ate the figs, and Mary _ the bananas. (greedily ate)

b. John posted the money on Wednesday, and Paul _ on Thursday. (posted the money)

c. John will try to come on Wednesday, and Paul _ on Thursday. (will try to come)

d. Harry told this story to his mother, and Tom _ to his father.
(told this story; from Kuno 1976: 306)

Now consider 'small clause' constructions and exclamative constructions like those in (10) and (11).[4] These apparently show gapping of nouns and adjectives (in (a),(b)) as well as of strings crucially including nouns, adjectives and prepositions (in (c), (d), (e), (f)).[5] Locative adverbs such as *here* and *outside* when they occur as predicates also apparently permit such gapping as do the verbs and auxiliaries of nonfinite complements.

These constructions all seem to have the properties of gapping noted above. They are apparently restricted to coordinate constructions (see (12)), and to cases where the gap is 'high' in the conjunct (see

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[4] I use the descriptively convenient term 'small clause', but do not intend to imply that such sequences should necessarily be analysed as constituents.

[5] There are severe restrictions on the gapping of strings which crucially include N. But these can sometimes be paralleled in the corresponding clauses which crucially include a copula, as below, so that they do not seem to be a special property of the gapping of strings crucially including N.

(a) What! Ford (was) an instigator of attempts to impeach Nixon, and Bush (_) an instigator of attempts to impeach Reagan!

(b) ... and Bush _ of attempts to impeach Reagan!

(c) * ... and Bush _ to impeach Reagan!

(d) * ... and Bush _ Reagan!

This is why I have not followed Neijt (1980: 28ff.) in adducing the similar restrictions on apparent ellipsis in NPs with a genitive (as in my type (3) above) as part of the evidence against identifying these with gapping structures. Neijt points out that the restricted nature of this apparent ellipsis contrasts with the freer gapping of strings which crucially include V. But this is not the relevant comparison. And it is not clear (to me) that there is a relevant distinction when comparison is made with the gapping of strings which crucially include N.

(13)). There seems to be no good reason to reject the straightforward pretheoretical classification of (10) and (11) with instances of gapping.

(10) a. I consider the courts arbiters of law and theologians _ of morals.

b. I thought John happy with his present and Mary _ with hers.

c. I consider Claudius the foul murderer of his brother and Hamlet _ of his uncle.

d. I consider Caesar an instigator of factionalism among slaves, and Spartacus _ among patricians.

e. I thought John happy to be superintended by a man, and Mary _ by a woman.

f. I thought John in a temper with Elizabeth and Paul _ with Mary.

(11) a. What, the courts arbiters of ethics and theologians _ of law!

b. What, John happy with his present and Mary _ with hers!

c. What, Claudius the foul murderer of Polonius and Hamlet _ of his mother!

d. What, Caesar an instigator of factionalism among patricians, and Spartacus _ among slaves!

e. What, John happy to be superintended by a woman, and Mary _ by a man!

f. What, John in a temper with Elizabeth and Paul _ with Mary!

(12) a. *I consider the courts arbiters of law, though theologians _ of morals.

cf. *The courts are arbiters of law, though theologians _ of morals.

b. *I consider Claudius the foul murderer of his brother if Hamlet _ of his uncle.

c. *What, John pleased with Mary because Paul _ with Elizabeth!

(13) a. *The courts are arbiters of law, and I consider theologians _ of morals.

b. *What, John pleased with Mary and you say Paul _ with Elizabeth!

This data seems not previously to have been observed. Indeed discussion seems to have been restricted to gapping in clauses with a verb (which is almost invariably finite), except when authors have considered generalizing the process to 'other' types of ellipsis.[6] But it is clear that the scope of gapping itself is wider than this. It is not restricted to strings which crucially include a verb or auxiliary, and there is therefore no straightforward line of argument from the occurrence of examples like (1) and (2) to a mutual and exclusive supercategory assignment for full verbs and auxiliaries. In fact, it seems unlikely that any essentially categorial restriction on what is crucially included in gapping will be appropriate, whether as a descriptive statement, or in its formalization. It is true that there is an apparent partial restriction on the occurrence of

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[6] But while this paper was in press, Hudson (1989) appeared, and he does briefly but explicitly consider the gapping of N and A (pp. 86-7). Hudson concludes that what gapping 'centres on' either has a surface subject or is a verb. But as my discussion here demonstrates the phenomenon is wider than this (and open, one would hope, to a more unitary statement, perhaps along the lines sketched below). Note in particular that Hudson's account does not allow for such examples as:

(a) What, always in a temper with Elizabeth and never _ with Mary!
(b) What, one week a supporter of Celtic, and the next week _ of Rangers!

prepositions, in that it does not generally seem possible to gap a preposition while retaining its immediate complement, cf. (14) and contrast (10f), (11f). But, though puzzling, this is perhaps connected to the fact that a gapping remnant may not normally be subcategorized by a preposition in cases like (15). If we leave this aside, it looks rather as if the gapping in (10) and (11), as more generally with finite full verbs, crucially includes something like the highest nonadverbial predicate in the conjunct, so that the status of auxiliaries must be evaluated with reference to whatever is the appropriate generalization here.

(14) *What, John in the garden and Mary _ the orchard!

(15) a. John relied on Mary, and Paul _ on Martha.

b. *John relied on Mary, and Paul _ Martha.

Can we then go on to say anything about the status of auxiliaries? I think we can argue with some plausibility, given reasonable assumptions, that the ellipsis in gapping crucially includes a head, hence that auxiliaries are heads. Let us consider this first by viewing gapping as a process. Adopting a constituent structure analysis we can see gapping in (1), (9), (10) and (11) above as affecting a sequence NP XP where XP is predicate to NP.[7] For example, in (10a) NP is *theologians*, and XP would be *arbiters of morals*. What is gapped crucially includes a head of the second constituent: its lexical head in (1), (9a) and (10a), a phrasal head in (9b). (I here assume that the adverb phrase in (9b) is generated by *VP --> VP AdvP*.) For some analysts the head of the second constituent may in its turn be the head of S, or of a small clause constituent, or of the exclamative clause, and it may be as the head of the conjunct as a whole that it is crucially included in gapping.[8] But such

[7] This is not intended as a general characterization, cf. examples such as Sag's *At our house, we play poker, and at Betty's house _ bridge*. (1976: example 3.2.6)

[8] Taking 'be head of' to be a transitive relation. If it is the head of the conjunct as a whole that is involved, then instances of stripping will be straightforwardly included (cf. note 2).

positions depend on further assumptions which we need not pursue here. Now, since specifiers may not be gapped without their heads, and an auxiliary may be the only item gapped, it looks as if we have some support here for the status of auxiliaries as heads - of their VP, of their S or of both, depending on the analyst's other assumptions.

A second way of looking at this is to consider characterizations of the gapped structure itself. If the gap is to be represented in syntax directly in some way (say, as an empty node or nodes), then it will be characterizable as a head (or as crucially including a head) as just noted. But a minimalist syntactic approach would be simply to generate the major categories which appear in the conjunct as daughters of the conjunct without further structure. This is the analysis followed by Sag et al. (1985). Subcategorizational restrictions, such as that between *relied* and *on Martha* in (15a), follow from their interpretation procedure which involves the substitution of these categories within the structure of a preceding conjunct. Thus this analysis generates for gapped conjuncts an internal structure which lacks a head, and interprets this structure by a process whose effect is to supply a semantic functor (or functors) sufficient to combine the relevant categories. The implication is that what is gapped must crucially include a semantic functor,[9] and, since auxiliaries may be gapped, that they are semantic functors. But being a semantic functor is an important criterion for being a lexical head (see the discussion of Hudson 1987, Warner 1989). So the fact that gapping may crucially include an auxiliary, as in (2) or (9c), strongly suggests that auxiliaries are heads.

Beyond this, there is a further line of argument. If auxiliaries are heads of VP (as argued, among others, by Schachter 1983), and if a head shares the full category of its phrase (as is not necessarily the case if this interrelationship involves 'default inheritance', cf. Gazdar et al. 1985), then auxiliaries are verbs. But that's another and less straightforward story.

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[9] Note that in the system of Gazdar et al. (1985) predicative categories, such as those in (10) and (11), will have the model theoretic type of VP.

I conclude as follows.

(i) Gapping may occur in conjoined 'small clause' constructions and in exclamative clauses, where the ellipsis crucially includes a noun, an adjective, an adverb, or a preposition (provided the preposition does not subcategorize one of the remnants). It is not therefore restricted, as in the traditional account, to ellipses which crucially include a (finite) verb or auxiliary. So it does not of itself provide a direct argument that auxiliaries are verbs.

(ii) Instead, gapping seems to involve an ellipsis which crucially includes a semantic functor, or an item which corresponds to a head of an antecedent conjunct or of its major predicate. Thus the gapping facts support the view that auxiliaries are heads.

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